

Appendix 1: Studies examining the effects of hand hygiene interventions on infectious illness-related absenteeism in workplaces.

| Author/s | Savolain-Kopra et al. | Stedman-Smith et al. | Uhari & Möttönen | Hübner et al. | Hammond et al. | Mott et al. | Van Camp & Ortega |
|--|---|--|---|--|--|---|---|
| Publication year | 2012 | 2015 | 1999 | 2010 | 2000 | 2007 | 2007 |
| Study location | Finland | USA | Finland | Germany | USA | USA | USA |
| Sample population | 683 office employees; 6 corporations (21 clusters) | 1688 office employees; 4 buildings (8 clusters) | 273 workers in 20 day-care centres | 129 public administrative employees | ~6000 students across three states (including 246 teachers in one school district) | 2728 military personnel in four battalions | 117 military aviation personnel |
| Study type | Cluster RCT | Cluster RCT | Cluster RCT | Prospective/interventional | Prospective/interventional | Pre-post test | Pre-post test |
| Study duration | Nov 2008 – May 2010 | Feb – Jun 2013 (flu season only) | Mar 1991 – May 1992 | Mar 2005 – Apr 2006 | Undisclosed school year | Pre1: Jan 2003 – Apr 2003 Pre2: Jan 2004 – Apr 2004 Post: Jan 2005 – Apr 2005 (flu seasons only) | Pre: Nov 2004 – Mar 2005 Post: Nov 2005 – Mar 2006 (flu seasons only) |
| Intervention (n) | PI: ABHS (257) SI: soap and water (202) | ABHS + media* (732) | IPC program including HH and environmental cleaning (147) | HH instruction with ABHS | HH instruction + ABHS (3075) | PI: ABHS, education, and reinforcement (778) SI: ABHS only (747) | ABHS availability + media + cough hygiene (56) |
| Control (n) | None (224) | Non ABHS-related media (956) | None (126) | None (65) | HH instruction only (3005) | None (1203) | Lower ABHS availability (61) |
| Absence outcome in intervention group | N.S. between PI and SI Significant increase in absence in SI group during and after pandemic (0.042) | 21% lower (N.S.) | 15% higher (p< 0.001) | Lower due to common cold (OR= 0.5, p= 0.008) Lower due to fever (OR = 0.57, p= 0.037) Lower due to cough (OR = 0.84, p= 0.024) | 10.1% lower (N.S.) | N.S. between PI and SI 44% reduction in lost training time compared with control (p< 0.001) | 63% fewer absent days post intervention (significance not reported) |
| Other outcomes in intervention group | 6.7% lower overall infection incidence in SI (p= 0.04) | 31% lower combined ARI-ILI/GI incidence (p= 0.037) | 17% lower rhinitis (p< 0.001), 11% lower cough (p< 0.001), 50% lower conjunctivitis (p<0.001), 18% lower diarrhoea (p< 0.05), 20% lower vomiting (p< 0.05). | Lower common cold incidence (OR = 0.35, p= 0.003) Lower fever incidence (OR = 0.38, p= 0.035) Lower cough incidence (OR = 0.45, p= 0.02) | N/A | PI and SI: 40% lower respiratory illness (p< 0.001), 48% lower gastrointestinal illness (p< 0.02), and 31% fewer healthcare encounters (p< 0.001) | Lower overall incidence compared with control group (p< 0.001) (size of difference not specified) 1.5% lower overall incidence than previous year (p< 0.001) |
| Randomisation | Yes | Yes | Yes | Yes | No | Yes | No |
| Blinding | No | No | No | No | No | No | No |
| Data collection method | Self-reported weekly | Self-reported monthly | Self-reported monthly | Self-reported monthly | Self-reported by school personnel | Official and self diagnoses tracked in database | Official diagnoses tracked in database |
| Intervention compliance measure method | Self-reported + checked by study nurse | Self-reported monthly | Checked fortnightly by study nurse | Self-reported at end of study | HS usage Checked minimum three times by study coordinator | Self-reported at start and end of study | HS usage |
| Limitations | The H1N1 pandemic stimulated a national hand hygiene campaign which possibly influenced results. | Limited duration | | Only achieved 16% recruitment rate | | Limited duration Incidence and absenteeism generally increased from previous years in all groups | Limited duration Significantly different cohort demographics |

PI = Primary Intervention
SI = Secondary Intervention
NS = Non-Significant

OR = Odds Ratio
ARI = Acute Respiratory Illness
GI = Gastrointestinal Illness

*media = posters
RCT = randomised controlled trial